REMARKS

The Examiner has maintained the rejection to claim 1 under 35 U.S.C. § 103(a) as being unpatentable over Chen in view of Chang. Applicant respectfully disagrees.

The present invention relates to a closed loop power control method implemented by a mobile station to control the transmit power of a base station. The base station transmits signals to the mobile station in frames. Each frame is divided into a number of logical transmission units (LTUs). The closed loop power control method includes an outer loop control element and an inner loop control element. The outer loop control element monitors the frame error rate (FER) and adjusts a set point to maintain a desired FER, e.g., one percent. The set point, for example, comprises a bit energy-to-noise ratio. The inner loop control element compares the bit energy-to-noise ratio of the received signal to the set point and generates up/down commands based on the comparison. If the measured bit energy-to-noise ratio exceeds the threshold, the mobile station transmits a down command to the base station, instructing the base station to reduce its transmit power. Conversely, if the measured bit energy-to-noise ratio is less than the set point, the mobile station transmits an up command to the base station, instructing the base station to increase its transmit power.

According to one embodiment of the present invention, the outer loop power control element increases the set point used by the inner loop control element by a variable amount, depending upon the number of LTU errors. In prior art systems, the step size for adjustments in the set point are fixed. In a second embodiment of the invention, the LTU error rate is used by the outer loop control element in place of the frame error rate to adjust the set point.

Claim 1 recites "adjusting a transmit power of the base station using a measure of logical transmission unit (LTU) errors in a received signal transmitted from the base station." Neither reference cited by the Examiner teaches or suggests using logical transmission units for purposes of power control.

The patent to Chen discloses a method of closed loop power control. According to Chen, a measure of the FER is used to adjust a set point for an inner loop power control mechanism. There is nothing in Chen that speaks to measuring LTU errors, and using that measurement to adjust the power control. The Examiner admits this fact.

Chang discloses a method for arranging Cyclic Redundancy Code (CRC) bits within Logical Transmission Units (LTU). In Chang, each LTUs includes a payload and a CRC field. According to Chang, the CRC bits are arranged such that the bits for even-numbered LTUs appear *before* the payload, and the bits for odd-numbered LTUs appear *after* the payload. Chang, like Chen, says nothing about using a measure of LTU errors to adjust the power control.

The Examiner theorizes that because CRC checks "inherently" indicate an error measurement, and because it is known to group LTUs into MuxPDUs, it would be obvious to modify Chen with Chang. This reasoning fails scrutiny, and is unsupported by the references. Whether a CRC check "inherently" indicates an error means nothing. The CRC checks in Chang indicate only whether errors have occurred during transmission so that the receiver can automatically request re-transmission of the erroneous LTUs. The CRC checks in Chang are never counted, and are not used to adjust the transmit power of a base station, and <u>neither Chen nor Change ever assert that they are</u>. Neither reference teaches or suggests that LTUs errors may be used in power control mechanisms. Chang in particular has nothing whatsoever to do with power control. Rather, Chang simply detects errors for the purposes of requesting re-transmission of erroneous data.
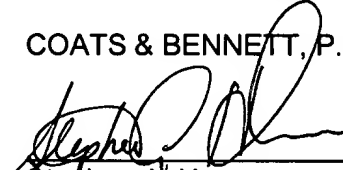
Simply put, neither reference discloses using a measure of logical transmission unit (LTU) errors to adjust power control, and neither reference supports the Examiner's allegations that they do. The only document that discloses using measurements of LTUs errors to adjust power control is Applicant's own disclosure. Applicant notes that the Office Action is conspicuously devoid of any proof (e.g., a cite from one or both of the references) that would

support these assertions. Neither Chen nor Chang teach or suggest, alone or in combination, claim 1. Therefore, Applicant respectfully requests the allowance of claim 1, and its dependent claims 2-9 and 11-15.

The Examiner also rejected claims 16 and 27 under 35 U.S.C. §103(a) over Chen in view of Chang citing reasons similar to those stated above with respect to claim 1. However, claims 16 and 27 recite similar language to that of claim 1. Therefore, for the reasons stated above, neither Chen nor Chang teach or suggest, alone or in combination, claim 16 or claim 27. Applicant respectfully requests the allowance of claims 16 and 27, and their respective dependent claims 17-26 and 28-37.

Respectfully submitted,

COATS & BENNETT, P.L.L.C.

Stephen A. Herrera
Registration No.: 47,642

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P.O. Box 5
Raleigh, NC 27602
Telephone: (919) 854-1844